




# Mill Test Certificate

Bri-Steel Manufacturing  
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Product: Seamless Carbon Steel Pipe      Product Heat Number: BSM-2517      Product Size: NPS 18 STD      Production Date: Sep 09, 2015  
 Production Method: Hot Expansion      Product Heat Treatment: ThermoMechanical Formed      Certificate No.: MTR- 001945  
 Product Standards: ASME B36.10-2004, API SL-45th Ed. GradeB/X42 PSL1, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012  
 Product Markings:  <API & L/C No.> API SPEC 5L NPS 18 STD 0.375 INCHWT GRB/X42 PSL1 SMLS 2015/09 NDE 1490PSI  
 HEAT BSM-2517 (PIPE # LENGTH MASS) 70.59lb/ft.ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA


Product: Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT	UT	ET	HydroTest	End Condition
BSM-2517	Heat	NPS 18 STD 0.375in. WT	1	DRL	70.59	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	31° Bevel

Heat	Steelmaking Method	Test Type	Chemical Analysis (wt%)															
			C	Min	P	S	SI	Cr	Cu	Mo	Ni	V	TI	Nb	B	CE(IIW)	CE(CSA)	
BSM-2517	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.16	1.16	0.010	0.002	0.27	0.01	0.01	0.01	0.01	0.02	0.050	0.001	0.001	0.0001	0.37	0.36
			Product	0.17	1.16	0.008	0.003	0.28	0.03	0.01	0.01	0.01	0.02	0.054	0.002	0.001	0.0003	0.38

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-2517	Heat	Ferrite & Pearlite	81 HRBW	Pass	Longitudinal; 1.5 in. x WT	53,000	76,000	0.70	40

Heat	Test	Standard	Impact Test Sample Details	Temp °C	Impact Energy				Lateral Expansion								
					J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG	
BSM-2517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Additional Details:  
 ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with API SL-45th Ed., ASTM/ASME A106-2014/SA106-2013, A53-2012/SA53-2013, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 and API Q1.  
 ✓ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2012 Section 2.1  
 ✓ No weld repairs have been performed on this product.  
 ✓ This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.  
 ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:  
  
 Tonya Lam, C.E.T.  
 Assistant QA Manager  
 Sept/21/2015